

General

Title

Adult trauma care: percentage of patients age 18 years and older admitted to hospital with an injury diagnosis and DVT prophylaxis prescribed within 24 hours of hospital admission.

Source(s)

Guide to quality indicators in adult trauma care. Version 3. Calgary (AB): Quality of Trauma in Adult Care, University of Calgary; 2013 Jan 29. 129 p. [111 references]

Measure Domain

Primary Measure Domain

Clinical Quality Measures: Process

Secondary Measure Domain

Does not apply to this measure

Brief Abstract

Description

This measure is used to assess the percentage of patients age 18 years and older admitted to hospital with an injury diagnosis and deep vein thrombosis (DVT) prophylaxis (pharmacological OR mechanical) prescribed within 24 hours of hospital admission (per 100 patients).

Rationale

Each year, injuries affect 700 million people worldwide and result in more than five million deaths. In many countries, injuries are the leading cause of death among those under the age of 45 years. The human and societal burden is even greater with many survivors never returning to school, work or their "regular" lives.

Health care services provide patients with treatment for what is a major cause of morbidity and death. Yet medical errors and substandard care threaten trauma care. Half of all patients with major traumatic injuries do not receive recommended care, medical errors are common in critically ill trauma patients and

preventable trauma deaths in hospital are widely reported. The World Health Organization (WHO), professional trauma organizations (e.g., American College of Surgeons [ACS], Trauma Association of Canada and Royal Australasian College of Surgeons) and accreditation bodies have promoted efforts to improve the quality of care delivered to injured patients. However, before the quality of injury care can be improved, it needs to be measured using reliable and valid measures of health care quality.

These indicators can be used to assess patient safety, and to evaluate and improve quality of care by incorporating these measures into local, regional or national quality improvement efforts. Implementing a consistent approach to measurement (same indicators, same definitions, same data elements, same reporting format) would provide institutions with reliable performance data that is necessary for surveillance (e.g., tertiary survey completion), to track local problems (e.g., adverse events – specifically missed injuries), evaluate the effects of interventions or program changes (e.g., tertiary survey protocol) and provide comparisons across centers (e.g., benchmarking adverse events using programs such as the ACS's Trauma Quality Improvement Program). Well-designed, carefully evaluated and appropriately implemented quality indicators (QIs) may be essential tools for guiding efforts to improve health and healthcare.

This indicator is intended to monitor deep vein thrombosis (DVT) prophylaxis.

Evidence for Rationale

Guide to quality indicators in adult trauma care. Version 3. Calgary (AB): Quality of Trauma in Adult Care, University of Calgary; 2013 Jan 29. 129 p. [111 references]

Primary Health Components

Trauma care; injury; deep vein thrombosis (DVT) prophylaxis

Denominator Description

All patients age 18 years and older admitted to hospital with an injury diagnosis

Numerator Description

All patients age 18 years and older admitted to hospital with an injury diagnosis AND deep vein thrombosis (DVT) prophylaxis (pharmacological OR mechanical) prescribed within 24 hours of hospital admission

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A clinical practice guideline or other peer-reviewed synthesis of the clinical research evidence

A formal consensus procedure, involving experts in relevant clinical, methodological, public health and organizational sciences

Additional Information Supporting Need for the Measure

A systematic review by the Eastern Association for the Surgery of Trauma (EAST) Practice Parameter

Workgroup for DVT Prophylaxis in 2002 summarized that venous thromboembolism is common in severely injured patients and that the optimal mode of prophylaxis is unknown. The best current evidence is for the use of low molecular weight heparin, but evidence exists for the effectiveness of unfractionated heparin and various mechanical devices (Rogers et al., 2002).

Evidence for Additional Information Supporting Need for the Measure

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Rogers FB, Cipolle MD, Velmahos G, Rozycki G, Luchette FA. Practice management guidelines for the prevention of venous thromboembolism in trauma patients: the East practice management guidelines work group. *J Trauma*. 2002 Jul;53(1):142-64. [146 references] [PubMed](#)

Extent of Measure Testing

Using a modification of the RAND/University of California, Los Angeles (UCLA) Appropriateness Methodology, a panel of 19 injury and quality of care experts serially rated and revised quality indicators identified from a systematic review of the literature and international audit of trauma center quality improvement practices. The quality indicators developed by the panel were sent to 133 verified trauma centers in the United States, Canada, Australia, and New Zealand for evaluation.

A total of 84 quality indicators were rated and revised by the expert panel over 4 rounds of review producing 31 quality indicators of structure (n=5), process (n=21), and outcome (n=5), designed to assess the safety (n=8), effectiveness (n=17), efficiency (n=6), timeliness (n=16), equity (n=2), and patient-centeredness (n=1) of injury care spanning prehospital (n=8), hospital (n=19), and posthospital (n=2) care and secondary injury prevention (n=1). A total of 101 trauma centers (76% response rate) rated the indicators (1=strong disagreement, 9=strong agreement) as targeting important health improvements (median score 9, interquartile range [IQR] 8 to 9), easy to interpret (median score 8, IQR 8 to 9), easy to implement (median score 8, IQR 7 to 8), and globally good indicators (median score 8, IQR 8 to 9).

Thirty-one evidence-informed quality indicators of adult injury care were developed, shown to have content validity, and can be used as performance measures to guide injury care quality improvement practices.

Trauma centers rated the indicator "percentage of patients age 18 years and older admitted to hospital with an injury diagnosis and deep vein thrombosis (DVT) prophylaxis prescribed within 24 hours of hospital admission" as targeting important health improvements (median score 9, IQR 8 to 9), easy to interpret (median score 9, IQR 8 to 9), easy to implement (median score 8, IQR 7 to 9), and globally a good indicator (median score 9, IQR 8 to 9).

Evidence for Extent of Measure Testing

Santana MJ, Stelfox HT, Trauma Quality Indicator Consensus Panel. Development and evaluation of evidence-informed quality indicators for adult injury care. *Ann Surg*. 2014 Jan;259(1):186-92. [35 references] [PubMed](#)

State of Use of the Measure

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Hospital Inpatient

Intensive Care Units

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

Single Health Care Delivery or Public Health Organizations

Statement of Acceptable Minimum Sample Size

Unspecified

Target Population Age

Age greater than or equal to 18 years

Target Population Gender

Either male or female

National Strategy for Quality Improvement in Health Care

National Quality Strategy Aim

Better Care

National Quality Strategy Priority

Prevention and Treatment of Leading Causes of Mortality

Institute of Medicine (IOM) National Health Care Quality Report Categories

IOM Care Need

Getting Better

IOM Domain

Effectiveness

Timeliness

Data Collection for the Measure

Case Finding Period

Unspecified

Denominator Sampling Frame

Patients associated with provider

Denominator (Index) Event or Characteristic

Clinical Condition

Institutionalization

Patient/Individual (Consumer) Characteristic

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions

All patients age 18 years and older admitted to hospital with an injury diagnosis

Exclusions

Unspecified

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions

All patients age 18 years and older admitted to hospital with an injury diagnosis AND deep vein thrombosis (DVT) prophylaxis (pharmacological OR mechanical) prescribed within 24 hours of hospital admission

Exclusions

Unspecified

Numerator Search Strategy

Institutionalization

Data Source

Registry data

Type of Health State

Does not apply to this measure

Instruments Used and/or Associated with the Measure

Unspecified

Computation of the Measure

Measure Specifies Disaggregation

Does not apply to this measure

Scoring

Rate/Proportion

Interpretation of Score

Desired value is a higher score

Allowance for Patient or Population Factors

not defined yet

Standard of Comparison

not defined yet

Identifying Information

Original Title

Deep vein thrombosis prophylaxis.

Measure Collection Name

Quality Indicators in Adult Trauma Care

Measure Set Name

Hospital Indicators

Submitter

Quality of Trauma in Adult Care (QTAC) Team, University of Calgary - Academic Institution

Developer

Quality of Trauma in Adult Care (QTAC) Team, University of Calgary - Academic Institution

Funding Source(s)

The project was supported by a Partnerships in Health System Improvement Grant (PHE-91429) from the Canadian Institutes of Health Research and Alberta Innovates Health Solutions. Funding sources had no role in the design, conduct, or reporting of this study.

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Financial Disclosures/Other Potential Conflicts of Interest

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Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2013 Jan

Measure Maintenance

Unspecified

Date of Next Anticipated Revision

Unspecified

Measure Status

This is the current release of the measure.

Measure Availability

Source available from the [Quality of Trauma in Adult Care \(QTAC\) Web site](#) .

This work is also available from the [Annals of Surgery Web site](#) : Santana MJ,

Stelfox HT, Trauma Quality Indicator Consensus Panel. Development and evaluation of evidence-informed quality indicators for adult injury care. *Ann Surg*. 2014 Jan;259(1):186-92.

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NQMC Status

This NQMC summary was completed by ECRI Institute on May 11, 2015. The information was verified by the measure developer on July 13, 2015.

Copyright Statement

This NQMC summary is based on the original measure, which is subject to the measure developer's copyright restrictions.

The individual measures from the "Guide to Quality Indicators in Adult Trauma Care," are available from the [Quality of Trauma in Adult Care \(QTAC\) Web site](#) .

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Production

Source(s)

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